UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF COMMERCIAL FISHERIES

CALIFORNIA FISHERY MARKET NEWS MONTHLY SUMMARY

JULY 1967

PART II–Fishing Information*

Sea-surface temperatures, fishing and research information of interest to the West Coast tuna-fishing industry and marine scientists

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FOR THE SECOND CONSECUTIVE YEAR: OREGON ALBACORE FISHING BEST ON THE PACIFIC COAST

For the second consecutive year, commercial albacore tuna production from Oregon-Washington waters will probably set the pace for the entire Pacific Coast.

July, 1967 has established another record low for albacore tuna landings in Southern California. Preliminary reports indicate that approximately 1,160,000 pounds (580 tons) were landed in the period ending July 31, thus setting a new low since 1941. For the fifth consecutive year, no landings were recorded in June, and for the third year in a row, July landings in Southern California have fallen below 2,000,000 pounds (1,000 tons).

Conversely, the Pacific Northwest has experienced its second consecutive record early-season opener, and it appears to be leading into another record for August production. Although the first albacore of the season were located off Cape Blanco on July 6 and 8 by M/V Sunrise, operating under charter to the Fish Commission of Oregon, the trolling fleet did not shift from salmon to tuna gear until well after mid-month. Approximately 240,000 pounds (120 tons) were landed as production came on strong at month-end, spurred on in part by the opening price of $390 per ton established by two Southern California canneries during the first week.

Total Pacific Coast albacore tuna production of 1967 will probably fall near or below the postwar average of 42,000,000 pounds (21,000 tons) if the present trend continues. The late season start in California waters, combined with a fleet scattered widely over the 1,200-mile reach offshore from Northern Baja California to Washington, will most likely result in an effective reduction in total fishing effort. Vessel searching and running time will be increased as the boats move about from one region to another, and small local Southern California boats will experience difficulty in operating at great distances from their home ports. The new, long-range vessels added to the albacore fleet this year should be able to work the areas 150-300 miles offshore most effectively, and may well offset some of the reduction in fishing effort by virtue of their greater potential range and fishing efficiency.

Weather and climate have had a profound influence on this year's albacore season. In Southern California, weather and sea conditions have been about average for June and July. Light to moderate winds and seas have prevailed, and have not prevented access to any fishing areas as in other years. San Juan Seamount,

notable for its "Point Conception blows," has not experienced any prolonged shut-outs to commercial fishing operations this year to date. In Southern California offshore waters, the upper mixed layer has begun to take up heat rapidly inside of a line extending from San Juan Seamount to Guadalupe Island, except for persistent local upwelling from Punta Descanso to Punta Colnett, Baja California, Mexico. This narrow zone has served to hold albacore closer to shore than to the north in the warmer Southern California coastal waters. Upwelling observed in this area was greater than normal in April and May. Consequently, the normal seasonal temperature increase has been retarded significantly, and only in recent weeks have weather conditions favored the termination of the cool temperature conditions established earlier.

Central and Northern California have been observing an upwelling regime which is about average for this time of the year; however, the relative width of the cold upwelled zone is not quite as great as in some previous years. Sea surface temperatures at Davidson Seamount began to warm rapidly in early July, but are now being checked by upwelling observed in that area during the last week of the month. The Cape Mendocino area likewise appears about average but has not been as stormy (windy) as is usual for July. Sea surface temperatures at Blunts Reef have dropped to 50° F., just at the long-term average for the month.

In Oregon and Washington offshore waters, continued rapid, widespread warming has created exceptional conditions this year. Variable to light winds and sharply reduced nearshore upwelling have allowed maximum absorption of heat by the upper mixed layer of the sea, building a large pool of 64° F. water off Oregon to about 131° W. This warm pool has served to aggregate the largest body of albacore observed this year to date anywhere on the Pacific Coast.

Weather trends observed prior to the issuance of our seasonal forecast on May 19 failed to continue. Instead, climatic conditions underwent a major change, permitting significant increases in in situ heat energy flux for June and July over a vast region from 35-50° N. and to the westward from 125° W. Cloud cover was significantly reduced, permitting the upper layer of the sea to absorb maximum amounts of heat, and winds were slightly less than average, indicating a slight reduction in normal evaporative heat loss and downward (turbulent) mixing. More solar radiation was stored in the upper layer of the sea in this region than in any July since we started our heat flux computation-observation program in 1960.

Similarly, Oregon coastal weather ashore has also set new records. July, 1967 is the driest month since 1933, having observed 39 straight days without rain up to August 4. A similar record had been established in 1931; in that year, Oregon experienced a 67-day period without rainfall, beginning on July 1.

Up to now, the majority of the albacore landed have been in the 12-13 pound size class. A few fish to 30 pounds have been taken in the Southern California area, but most of the large fish have been caught by sportfishing party boats. A few 20-

30 pound fish have been observed in Oregon catches to date, but here also the majority of the fish have been from 12-13 pounds.

The few baitboats remaining in Southern California are experiencing poor to "scratch" fishing only with a few good stops on fish chummed up briefly from the colder, deep waters. Jig boats (trollers) have had moderate to excellent success in all areas in the north, and catches up to 740 fish per day have been logged off Cape Blanco to Newport, Oregon. In Southern California, fishing is expected to get poorer as the mixed layer deepens. The albacore apparently go down and then offshore to remain in waters cooler than 66-68° F.; consequently, the fish become harder to locate and "hold" once they are found. What few jig boats remain might be well advised to weight their jigs adequately to fish in the 60-66° F. layer at about 15-20 fathoms. (This method was used last year by a few boats.)

The Oregon-Washington region appears to offer very good to excellent fishing from Cape Blanco northward to Destruction Island and offshore to 250-300 miles. British Columbia trollers should experience some albacore action within a 100-mile reach of Vancouver Island and up to latitude 50-51° N. in middle and late August. These conditions are expected to prevail until the onset of normal fall cooling in mid-September, barring any major disruptions in the present weather patterns.

For the past 2 months, we have observed a persistent, strong high pressure cell at the surface remaining centered in an average position at approximately 40-45° N. and 150-160° W. This system, located farther north and west than usual, has been anchored in this general position by an upper atmospheric trough-ridge pattern which likewise has persisted for approximately the same interval. These events have caused the sea surface temperature anomaly pattern to relocate on a north-south axis, shifting the warm center of the pattern north of 40° N. and the cool area to the south, extending into Baja California. Continuation of this general pattern through August and into September could well create some of the best weather and ocean conditions for the Pacific Northwest albacore fishery in more than two decades.

Southern California's August weather will begin to exert its normal late-summer warming on the inshore zone from Point Conception southward to Punta Descanso, Baja California. As this occurs, albacore will begin to more offshore and into the deeper layers, and bluefin tuna should move into the warmer nearshore region. Commercial albacore fishing activity in Southern California consequently will be very slow. Boats able to move to northern waters may be well advised to do so; others remaining to operate out of southern ports on skipjack may also do better. Southern California sportfishers should continue to experience good short-term flurries of action, but a general decline is expected to set in by the third week of August. Longer trips will doubtless have to be scheduled as the boats have to reach out further for good albacore fishing.

Glenn A. Flittner, Leader
Fishery-Oceanography Program
August 6, 1967

Charts

Figure 1.--Mean sea surface temperatures (°F) derived from approximately 9000 observations. Squares show temperatures at weather ship stations. Numerals on shore are temperatures at coastal and lightship stations.

Figure 2.--Deviation of sea surface temperatures (°F) from long term charts of H.O. 225. Hatched areas are colder in 1967.

Figure 3.--Deviation of sea surface temperatures (°F) from those of July 1966. Hatched areas are colder in 1967.

Figure 4.--Sea surface temperatures (°F) by 1-degree squares, approximately 3000 observations. Line under temperatures indicates average of two or more observations. Numerals on shore are temperatures at coastal stations.

Figure 5.--Deviation of sea surface temperatures (°F) July 1967-July 1966 by 1-degree squares. Shaded areas are colder in 1967.

Figure 6.--Deviation of sea surface temperatures (°F) from 12-year mean (1947-1958) by 2-degree squares. Shaded areas are colder in 1967.

James A. Renner
Fishery Biologist (General)
August 8, 1967

SEA SURFACE TEMPERATURE CHARTS, EASTERN PACIFIC OCEAN
JULY 1967

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U. S. Bureau of Commercial Fisheries Biological Laboratories La Jolla, California; Honolulu, Hawaii; and Seattle, Washington
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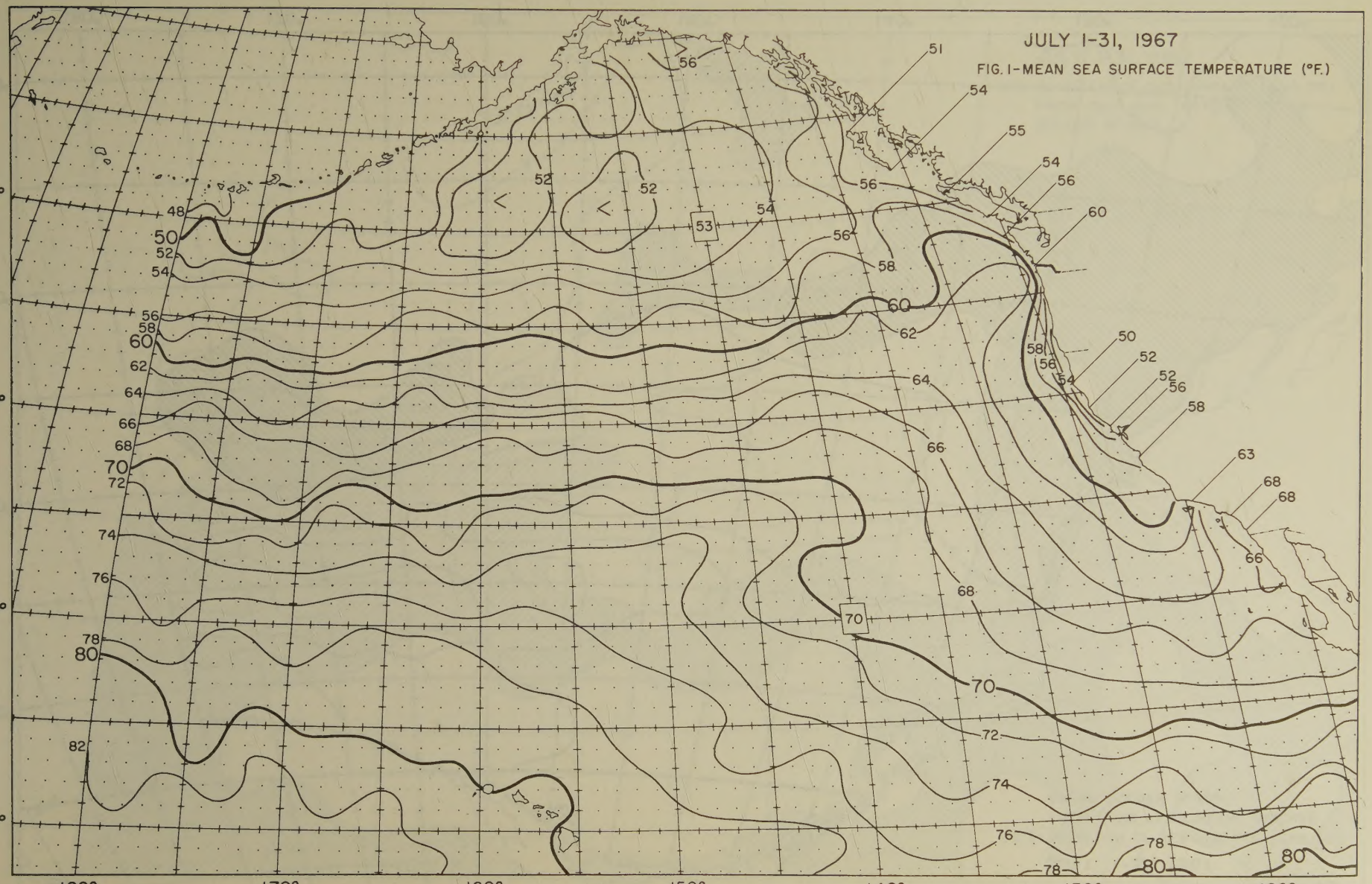
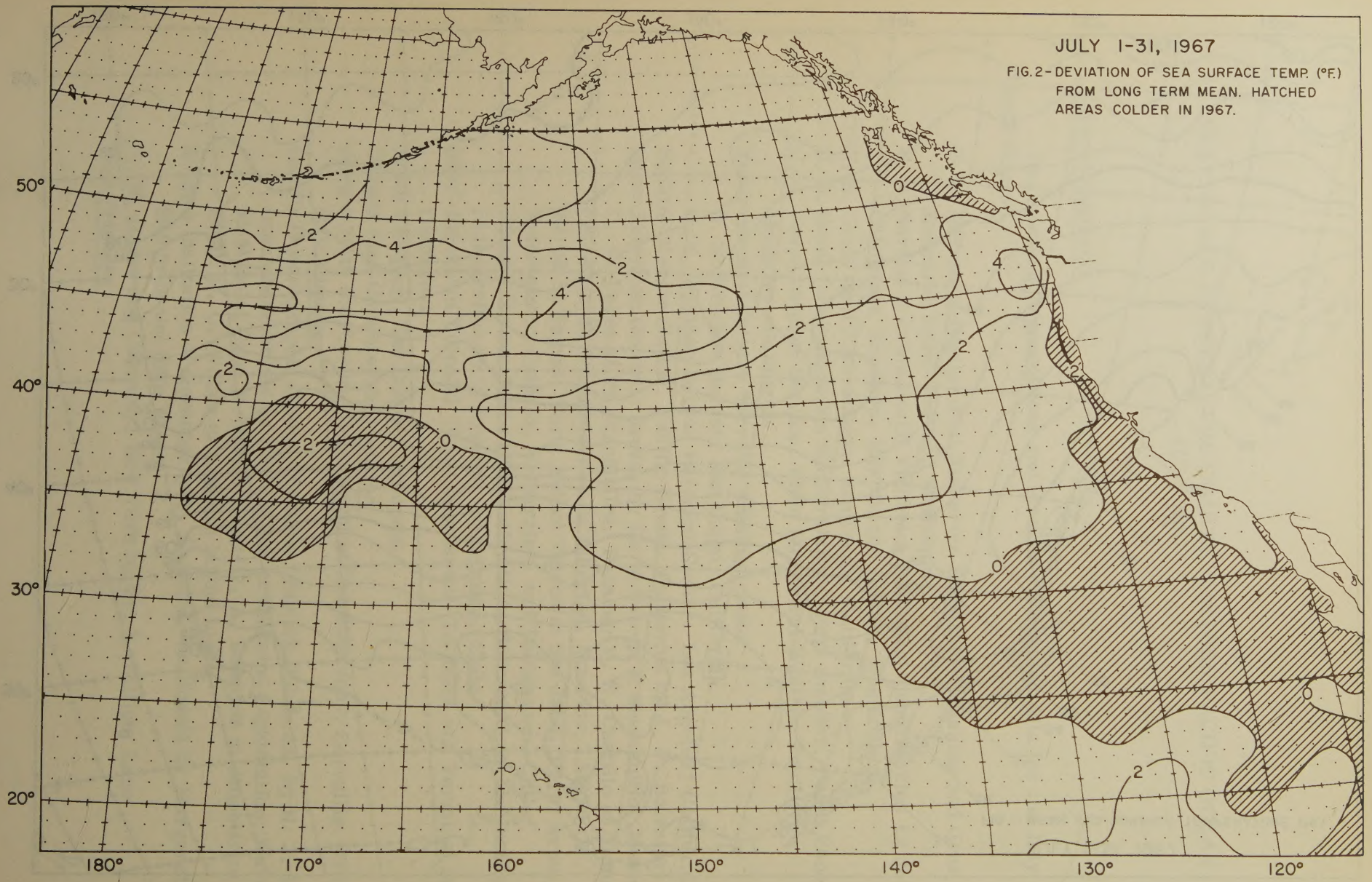
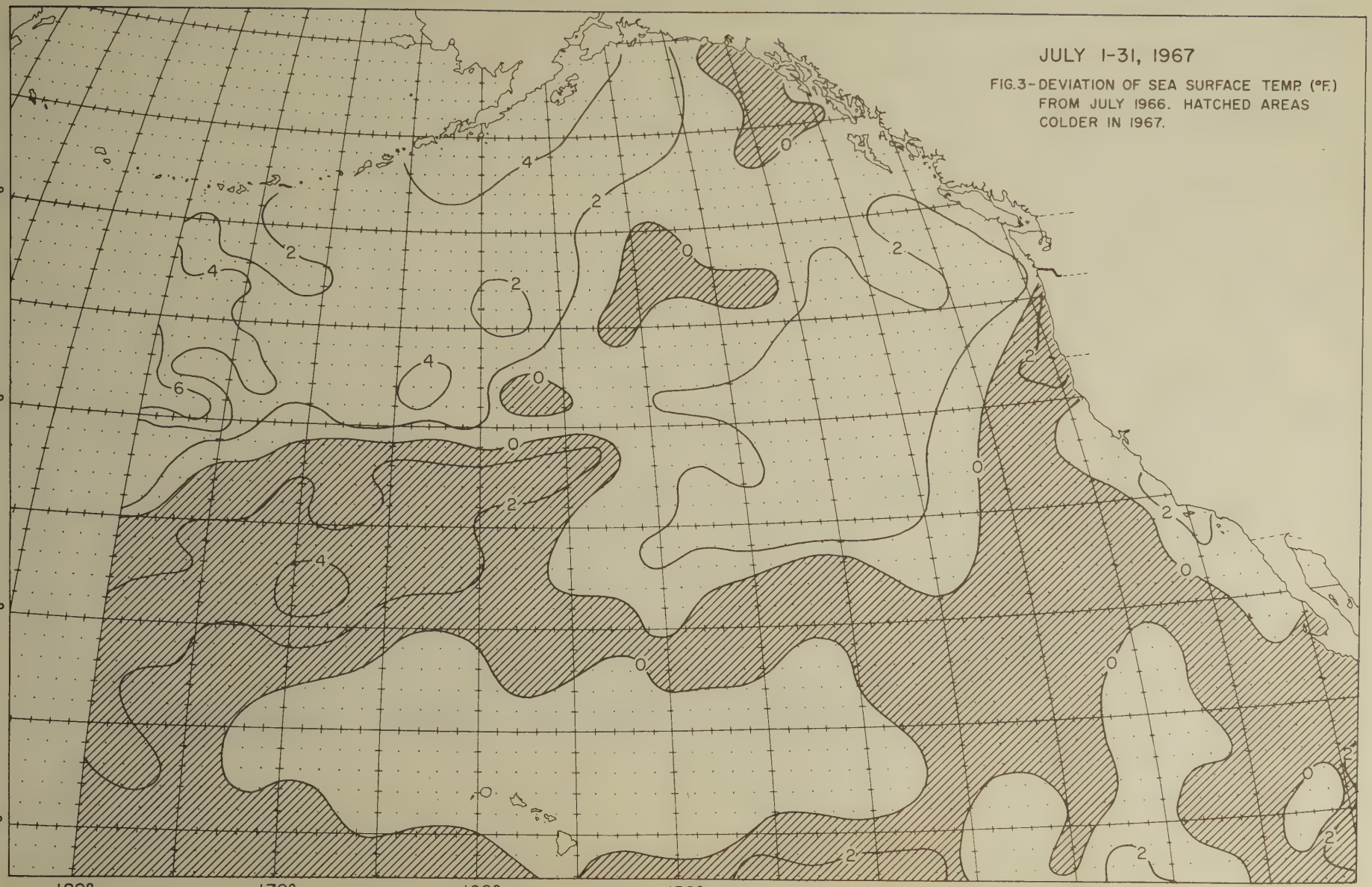
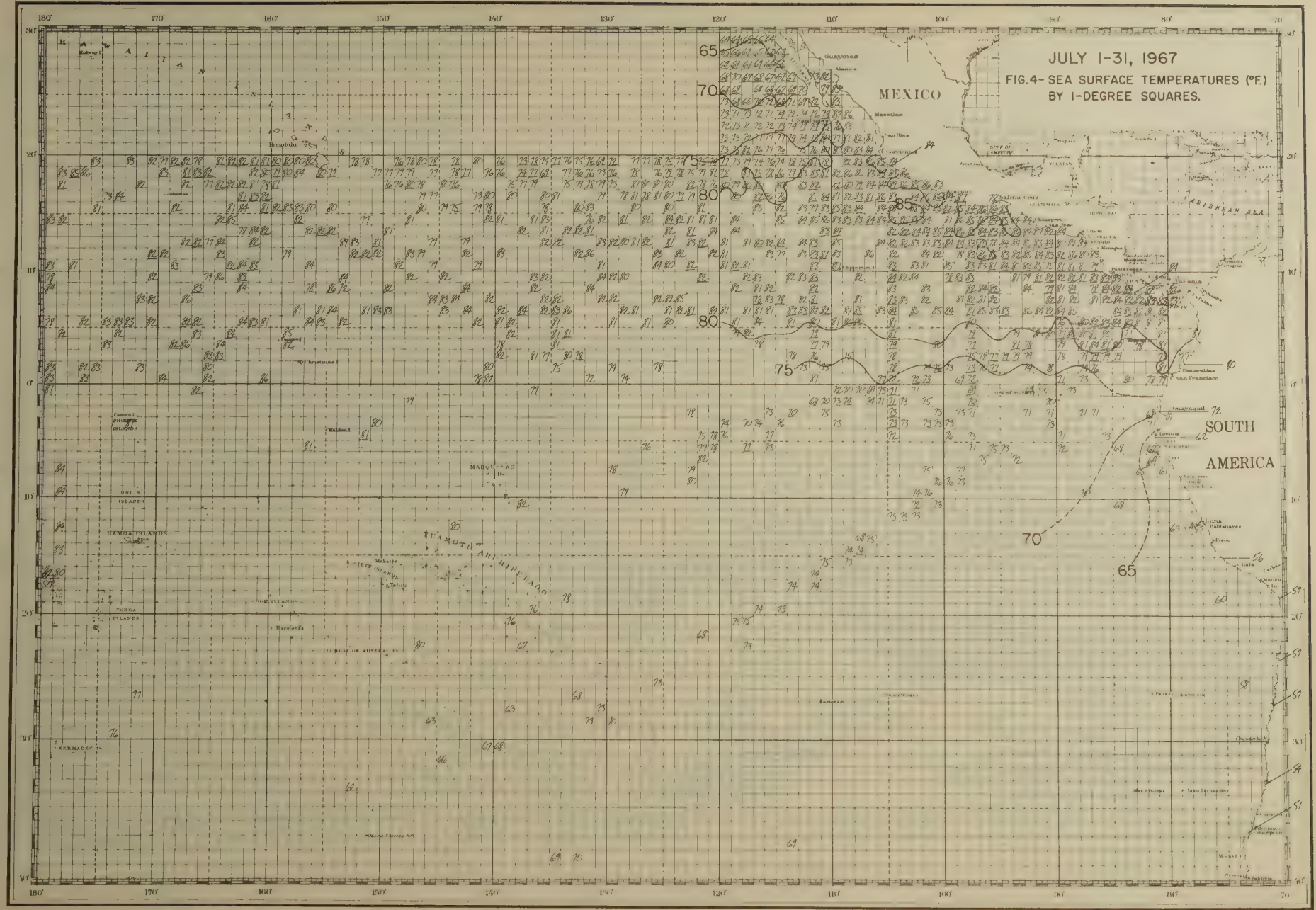
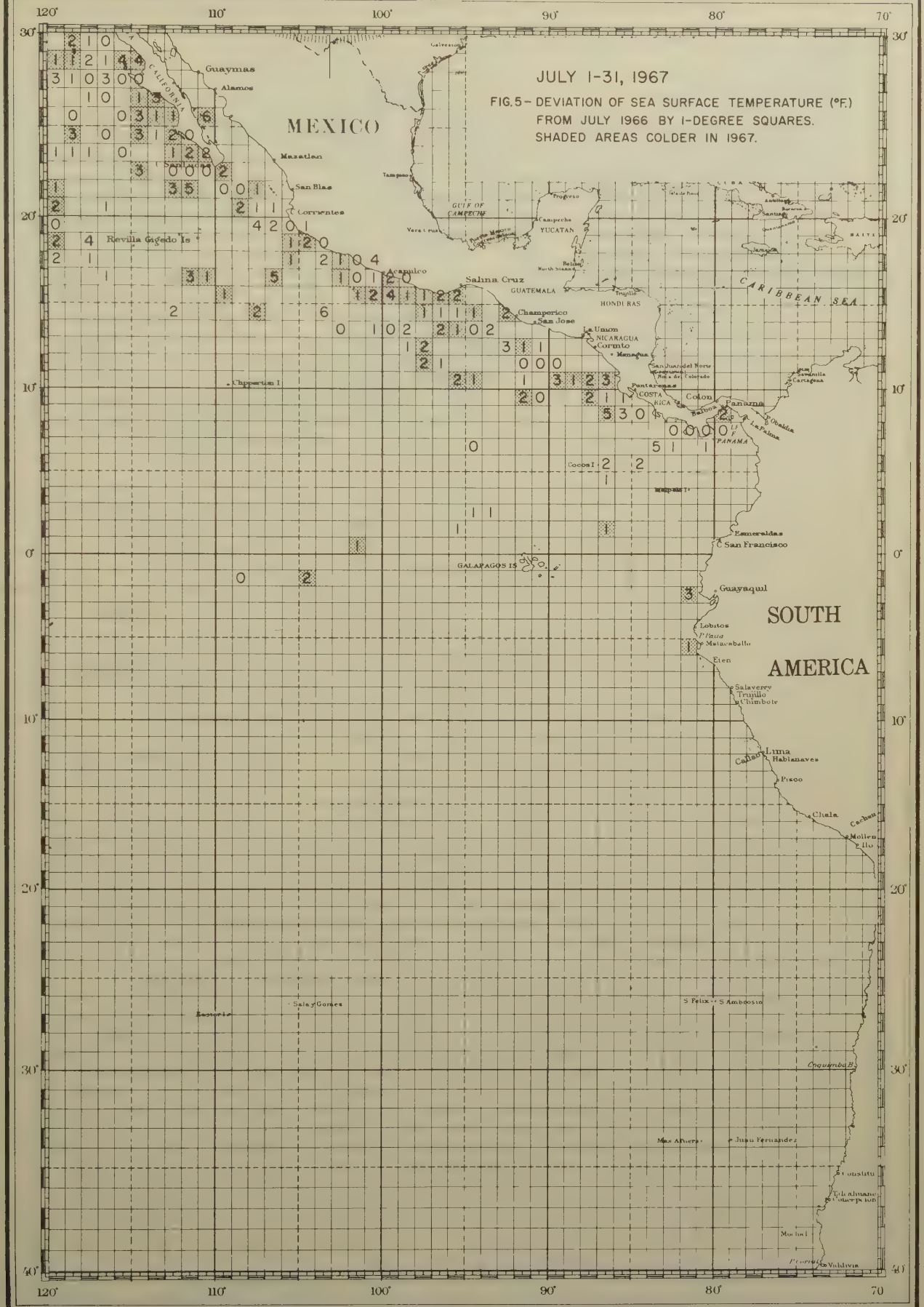
Ship Princess

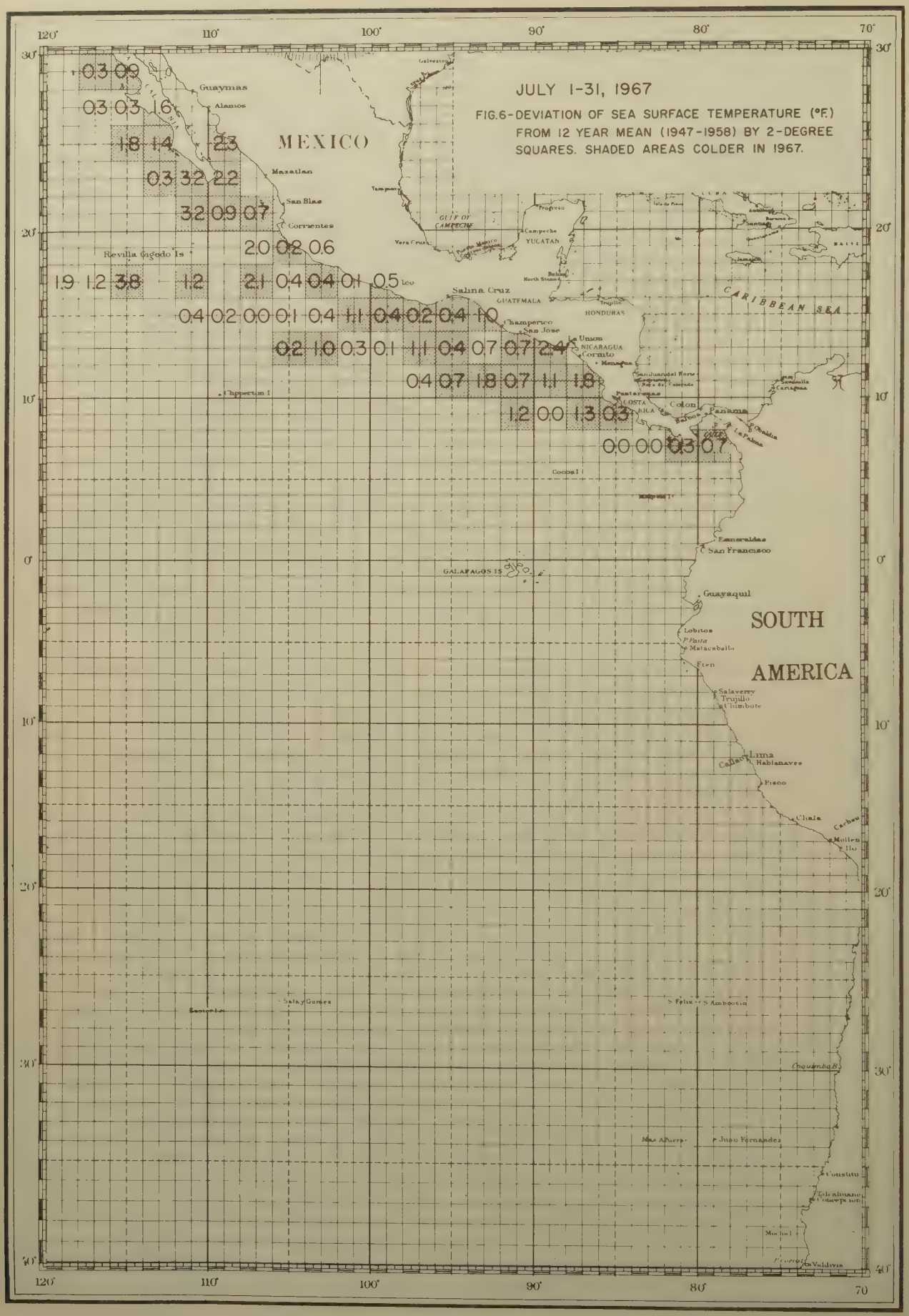

JULY 1-31, 1967
FIG. 1-MEAN SEA SURFACE TEMPERATURE (°F.)
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


JULY 1-31, 1967
FIG. 2 - DEVIATION OF SEA SURFACE TEMP. (°F.) FROM LONG TERM MEAN. HATCHED AREAS COLDER IN 1967.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°
2
4
0


JULY 1-31, 1967
FIG.3-DEVIATION OF SEA SURFACE TEMP. (°F.) FROM JULY 1966. HATCHED AREAS COLDER IN 1967.
50°
40°
30°
20°
180°
170°
160°
150°
140°
130°
120°


JULY 1-31, 1967
FIG.4- SEA SURFACE TEMPERATURES (°F.)
BY 1-DEGREE SQUARES.
MEXICO
SOUTH
AMERICA
CARIBBEAN SEA
HAWAIIAN ISLANDS
SAMOA ISLANDS
TONGA ISLANDS
TUAMOTU ARCHIPELAGO
MARQUESAS
KERMADEC IS.
Honolulu
Guaymas
Mazatlan
San Blas
Salina Cruz
Acapulco
Manzanillo
Buenaventura
Tumaco
Esmeraldas
San Francisco
Guayaquil
Lima
Callao
Pisco
Valparaiso
Juan Fernandez
Easter Island
Pitcairn Island
Rarotonga
Papeete
Nukuhiva
Tahiti
Christmas I.
Fanning I.
Palmyra I.
Johnston I.
Wake I.
Marcus I.
Midway Is.
Guam
Philippine Islands
Malaya
Borneo
Celebes
Halmahera
Marianas Is.
Caroline Islands
Marshall Islands
Gilbert Islands
Ellice Islands
Fiji Islands
Loyalty Islands
New Caledonia
Norfolk I.
New Hebrides
Solomon Islands
Bismarck Archipelago
Admiralty Is.
Truk Islands
Ponape
Kusaie
Jaluit
Ocean I.
Nauru
Tarawa
Makin
Canton I.
Enderbury I.
Phoenix Is.
Tokelau Is.
Manihiki
Penrhyn I.
Samoa Islands
Tonga Islands
Kermadec Is.
180°
170°
160°
150°
140°
130°
120°
110°
100°
90°
80°
70°
30°
20°
10°
0°
10°
20°
30°
40°


JULY 1-31, 1967
FIG. 5 - DEVIATION OF SEA SURFACE TEMPERATURE (°F.) FROM JULY 1966 BY 1-DEGREE SQUARES. SHADED AREAS COLDER IN 1967.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CAMPECHE
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Revilla Gigedo Is
Acapulco
Salina Cruz
Champerico
San Jose
Corinto
Chiperton I
Pantaremas
Colon
Panama
Cocos I
Esmeraldas
San Francisco
Guayaquil
Lobitos
Talara
Eten
Salaverry
Trujillo
Chimbote
Callao
Lima
Huacho
Pisco
Chala
Mollendo
Arica
Salas y Gomez
S. Felix
S. Ambrosio
Juan Fernandez
Valdivia
Progreso
Campeche
Tampico
Veracruz
Belize
Trujillo
Cartagena
Santiago
Haiti
Cuba


JULY 1-31, 1967
FIG.6-DEVIATION OF SEA SURFACE TEMPERATURE (°F.) FROM 12 YEAR MEAN (1947-1958) BY 2-DEGREE SQUARES. SHADED AREAS COLDER IN 1967.
MEXICO
SOUTH AMERICA
CARIBBEAN SEA
GULF OF CAMPECHE
YUCATAN
GUATEMALA
HONDURAS
NICARAGUA
COSTA RICA
PANAMA
GALAPAGOS IS
Guaymas
Alamos
Mazatlan
San Blas
Corrientes
Revilla Gigedo Is
Salina Cruz
Champerico
San Jose
Cormito
Chipperum I
Cocos I
Esmeraldas
San Francisco
Guayaquil
Lobitos
Talara
Salaverry
Trujillo
Chimbote
Lima
Callao
Pisco
Chala
Mollendo
Arica
Coquimbo
Juan Fernandez
Valdivia
0.3 0.9
0.3 0.3 1.6
1.8 1.4 2.3
0.3 3.2 2.2
3.2 0.9 0.7
2.0 0.2 0.6
1.9 1.2 3.8 1.2 2.1 0.4 0.4 0.1 0.5
0.4 0.2 0.0 0.1 0.4 1.1 0.4 0.2 0.4 1.0
0.2 1.0 0.3 0.1 1.1 0.4 0.7 0.7 2.4
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1.2 0.0 1.3 0.3
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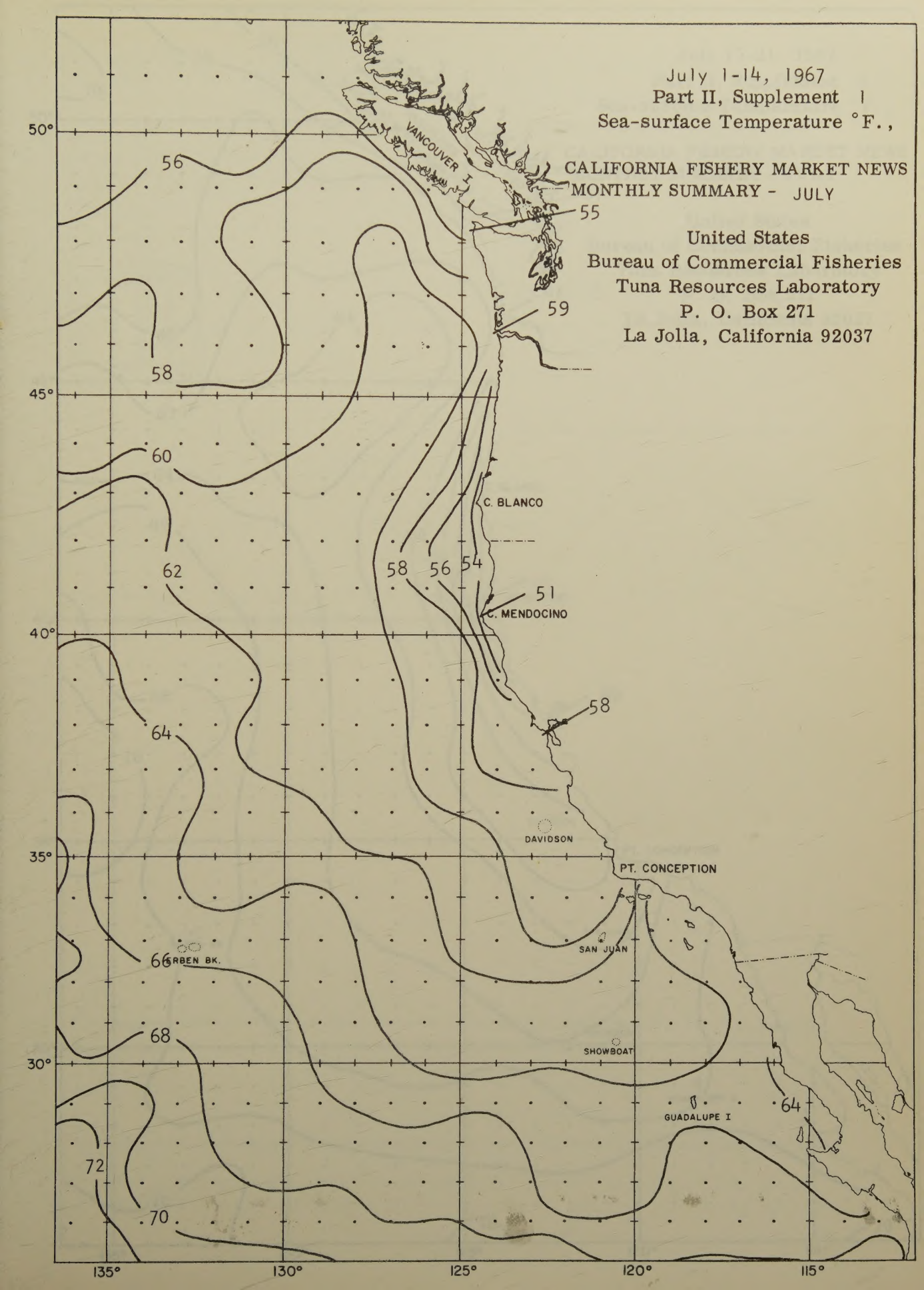
July 1-14, 1967
Part II, Supplement 1
Sea-surface Temperature °F.,
CALIFORNIA FISHERY MARKET NEWS
MONTHLY SUMMARY - JULY
United States
Bureau of Commercial Fisheries
Tuna Resources Laboratory
P. O. Box 271
La Jolla, California 92037
VANCOUVER I.
C. BLANCO
C. MENDOCINO
DAVIDSON
PT. CONCEPTION
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SHOWBOAT
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ORBEN BK.
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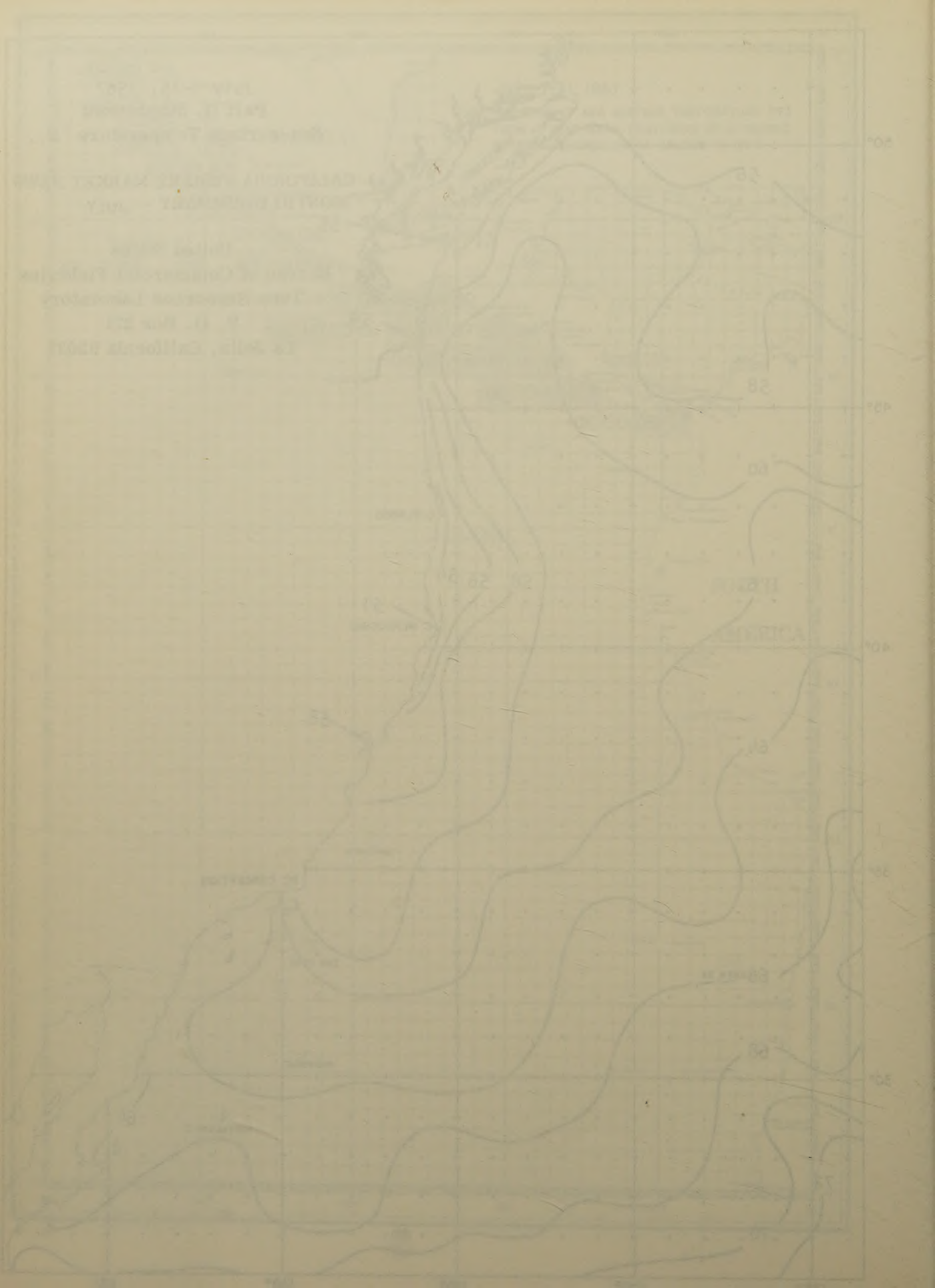

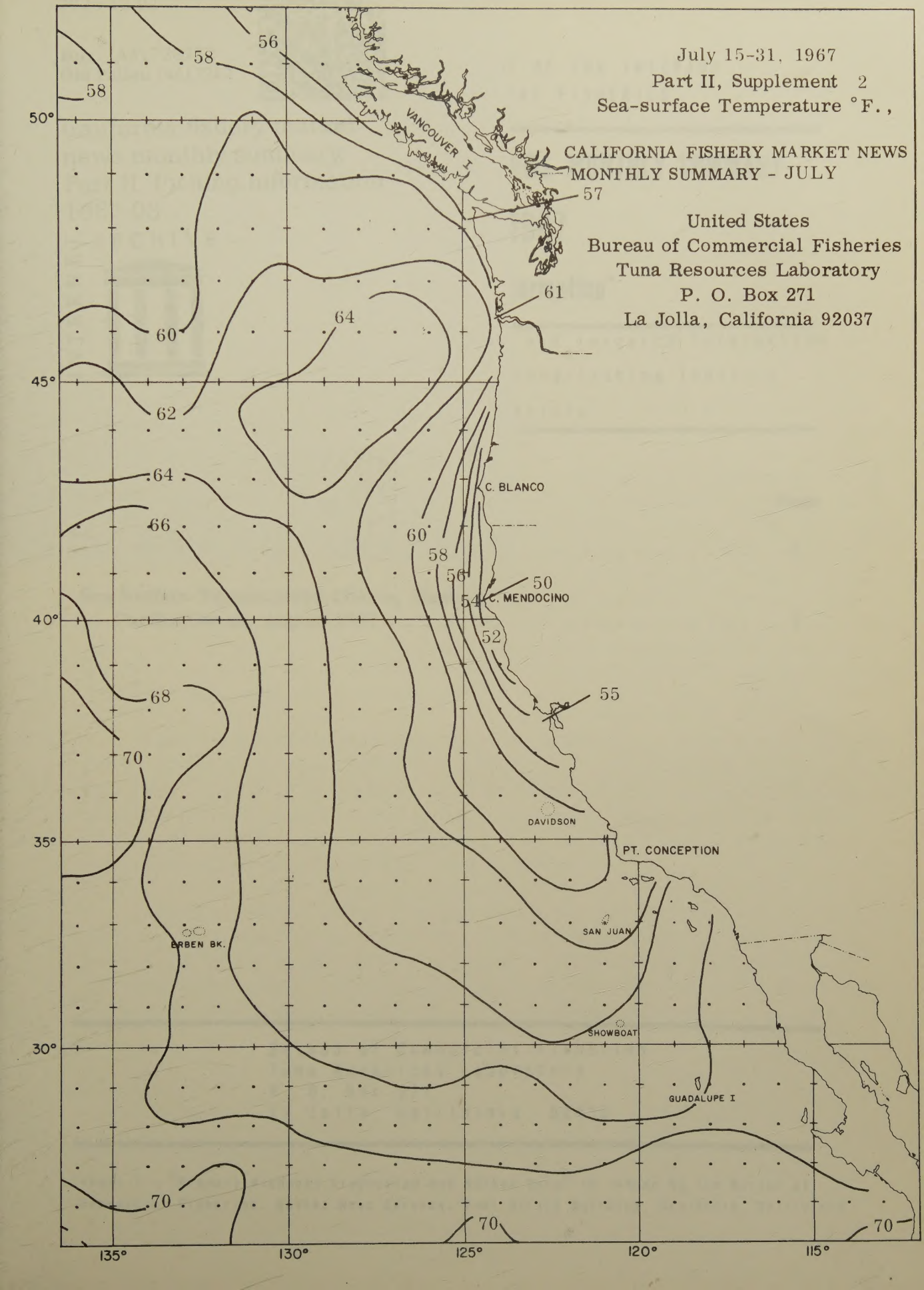
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Part II, Supplement 2
Sea-surface Temperature °F.,
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MONTHLY SUMMARY - JULY
United States
Bureau of Commercial Fisheries
Tuna Resources Laboratory
P. O. Box 271
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VANCOUVER I.
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